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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/699,084      | 10/31/2003  | George Stylios       | 3558 P 003          | 1836             |

7590 07/01/2004  
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| EXAMINER |
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LE, JOHN H

|          |              |
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| ART UNIT | PAPER NUMBER |
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2863

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|  |                                      |  |  |
|--|--------------------------------------|--|--|
| <p align="center"><b>Office Action Summary</b></p> | <b>Application No.</b><br>10/699,084 | <b>Applicant(s)</b><br>STYLIOS, GEORGE |  |
|  | <b>Examiner</b><br>John H Le         | <b>Art Unit</b><br>2863                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 3 and 9-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/23/2004</u> | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

Page 10, line 16, "13" should change to --313--.

Appropriate correction is required.

### ***Claim Objections***

2. Claims 5 and 8 are objected to because of the following informalities:

Regarding claims 5 and 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 6, 7, 12, 13, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Mansour (USP 5,122,672).

Regarding claim 1, Mansour teaches a method and apparatus for measuring the quality of surface comprising directing at the surface a line beam from an illuminator (e.g. Col.1, lines 63-65, Col.2, lines 56-60), imaging the line on the surface formed by

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the line beam (e.g. Col.1, lines 50-59) and analysing data of the image to produce an objective indication of the degree of regularity of the surface (e.g. Col.2, lines 20-37).

Regarding claim 2, Mansour teaches parallel line beams are directed at the surface (Fig.1, Col.1, lines 63-65).

Regarding claim 4, Mansour teaches the illuminator comprises a line beam laser (Fig.1, Col.1, lines 50-59, Col.2, lines 56-60).

Regarding claim 6, Mansour teaches the image is analysed in a computer programmed with image analysis software (e.g. Col.3, line 52-Col.4, line 4).

Regarding claim 7, Mansour teaches the result of analysing the image is a display of a distribution of severity of deviation of the surface from flat (e.g. Fig.1, video monitor 206, Col.1, lines 63-66, Col.3, lines 25-35).

Regarding claim 12, Mansour teaches apparatus for measuring the quality of surface comprising: a line beam illuminator; a support arrangement for the surface under assessment such that the line beam illuminator is directed at the surface to illuminate a line thereon (e.g. Col.2, line 63-Co.3, line 14); an imaging arrangement adapted to image the line illuminator on the surface (e.g. Col.3, lines 14-24) by the line beam illuminator (e.g. laser beam, Col.2, lines 56-60); and, analysis means adapted to receive image data to produce an objective indication of the degree of irregularity of the surface (e.g. image processor/computer 204, Col.3, line 61-Col.4, line 4).

Regarding claim 13, Mansour teaches there are one, two or more line beam illuminators casting parallel beams (e.g. Col.2, lines 63-67).

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Regarding claim 16, Mansour teaches the line illuminator and the imaging arrangement point at the surface from different directions (e.g. Col.3, lines 36-51).

Regarding claim 17, Mansour teaches the line illuminator is a laser (e.g. Col.2, lines 56-62).

Regarding claim 18, Mansour teaches the analysis means comprising a computer programmed with image analysis software (e.g. Col.3, line 52-Col.4, line 4).

5. Claims 1, 7, 8, 12, 14, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Weber et al. (USP 4,900,153).

Regarding claim 1, Weber et al. teach an optical surface inspection apparatus for material web, the method comprising directing at the surface a line beam from an illuminator (e.g. Col.1, lines 33-48, Col.6, lines 16-21), imaging the line on the surface formed by the line beam (e.g. Col.1, lines 33-48, Col.6, lines 21-46) and analysing data of the image to produce an objective indication of the degree of regularity of the surface (e.g. Col.1, lines 33-59, Col.6, lines 41-63).

Regarding claim 7, Weber et al. teach the result of analysing the image is a display of a distribution of severity of deviation of the surface from flat (e.g. Fig.1, Col.6, lines 31-55).

Regarding claim 8, Weber et al. teach the surface comprises a limp material includes a textile fabric mounted on a flat support bed (e.g. Col.2, lines 18-22, Col.3, lines 37-40).

Regarding claim 12, Weber et al. teach an optical surface inspection apparatus for material web comprising: a line beam illuminator; a support arrangement for the

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surface under assessment such that the line beam illuminator is directed at the surface to illuminate a line thereon (e.g. Col.1, lines 33-48, Col.6, lines 16-21); an imaging arrangement adapted to image the line illuminator on the surface by the line beam illuminator (e.g. Col.1, lines 33-48, Col.6, lines 21-46); and, analysis means adapted to receive image data to produce an objective indication of the degree of irregularity of the surface (e.g. Col.1, lines 33-59, Col.6, lines 41-63).

Regarding claim 14, Weber et al. teach the imaging arrangement comprises a pixel imaging arrangement (e.g. Fig.1, Col.6, lines 16-25).

Regarding claim 16, Weber et al. teach the line illuminator and the imaging arrangement point at the surface from different directions (e.g. Figs.1-2).

6. Claims 1, 4, 5, 7, 12, 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Taft et al. (USP 4,741,621).

Regarding claim 1, Taft et al. teach a geometric surface inspection system, the method comprising directing at the surface a line beam from an illuminator 24 (e.g. Col.3, lines 41-49), imaging the line on the surface formed by the line beam (e.g. Col.4, lines 4-11) and analysing data of the image to produce an objective indication of the degree of regularity of the surface (e.g. Col.5, lines 21-24).

Regarding claim 4, Taft et al. teach the illuminator comprises a line beam laser (e.g. Fig.5).

Regarding claim 5, Taft et al. teach the line on the surface is imaged by a pixel imager includes a CCD array camera (Abstract).

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Regarding claim 7, Taft et al. teach the result of analysing the image is a display of a distribution of severity of deviation of the surface from flat (e.g. Col.5, lines 35-37, Col.8, lines 8-28).

Regarding claim 12, Taft et al. teach apparatus for measuring the quality of surface comprising: a line beam illuminator; a support arrangement for the surface under assessment such that the line beam illuminator is directed at the surface to illuminate a line thereon (e.g. Fi.5, Col.3, lines 41-49); an imaging arrangement adapted to image the line illuminator on the surface by the line beam illuminator (e.g. laser beam, Col.4, lines 4-11); and, analysis means adapted to receive image data to produce an objective indication of the degree of irregularity of the surface (e.g. Col.2, lines 5-17, Col.5, lines 21-24).

Regarding claim 15, Taft et al. teach the pixel imaging arrangement comprise a CCD array (Abstract).

Regarding claim 16, Taft et al. teach the line illuminator and the imaging arrangement point at the surface from different directions (e.g. Col.2, lines 27-35).

Regarding claim 17, Taft et al. teach the line illuminator is a laser 24 (e.g. Fig.5).

### ***Allowable Subject Matter***

7. Claims 3 and 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 3, none of the prior art of record teaches or suggests the combination of a method for the assessment of seam pucker and other surface irregularities, wherein the method comprising steps of: directing at the surface a line beam from an illuminator, wherein in which parallel line beams are directed at the surface, wherein the parallel line beams are directed to form lines on the surface parallel to and either side of the seam, and at an angle from a plane perpendicular to the surface. It is these limitations as they are claimed in the combination with other limitations of the claims, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 9, none of the prior art of record teaches or suggests the combination of a method for the assessment of seam pucker and other surface irregularities, wherein the method comprising steps of: directing at the surface a line beam from an illuminator, wherein in which the surface comprises a limp material includes a textile fabric mounted on a flat support bed, wherein in which the flat support bed is, for the assessment, inclined steeply with the material clamped uppermost and resting against the bed below the clamping location. It is these limitations as they are claimed in the combination with other limitations of the claims, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

Regarding claim 10, none of the prior art of record teaches or suggests the combination of a method for the assessment of seam pucker and other surface irregularities, wherein the method comprising steps of: directing at the surface a line



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beam from an illuminator, wherein in which the surface comprises a limp material includes a textile fabric mounted on a flat support bed, wherein the material is the same size as the bed. It is these limitations as they are claimed in the combination with other limitations of the claims, which have not been found, taught or suggested in the prior art of record, that make these claims allowable over the prior art.

**Contact Information**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John H Le whose telephone number is 571-272-2275. The examiner can normally be reached on 9:00 - 5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John H. Le

Patent Examiner-Group 2863

6/14/04

  
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